

Notice of Allowability	Application No.	Applicant(s)	
	10/522,741	TANABE ET AL.	
	Examiner Aung S. Moe	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to _____.
2. The allowed claim(s) is/are 1-26 (renumbered as 1-26 respectively).
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>see attached</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|--|

DETAILED ACTION

1. The following is an examiner's statement of reasons for allowance: Claims 1 and 3-9 are considered allowable over the prior art of record since prior art of record fails to show or fairly suggest a transmitter having modulated signal generating device for generating a modulated signal, phase/amplitude separating device for separating the modulated signal generated by the modulated signal generating device into a phase component and an amplitude component, amplitude slicing device for slicing the amplitude component separated by the phase/amplitude separating device at a plurality of voltage levels being different stepwise, a plurality of switching regulators for converting the power supply voltage into a plurality of voltages having different values stepwise, a switch group for selecting one of the output voltages of the plurality of switching regulators, a switch driver for selectively conducting each switch of the switch group according to the slice data of the amplitude component sliced by the amplitude slicing device, linear voltage converting device for voltage-converting the amplitude component by using the output voltage of one of the switching regulators selected by the switch group as the power supply voltage, and a high-frequency power amplifier for receiving the phase component at the high-frequency input terminal thereof, for receiving the amplitude component voltage-converted by the linear voltage converting device at the power supply terminal thereof and for, as a result, outputting a modulated wave in which amplitude and phase are multiplied as substantially described and connected in independent claim 1.

Claims 2 and 16-22 are considered allowable over the prior art of record since prior art of record fails to show or fairly suggest a transmitter having modulated signal generating device for generating a modulated signal, phase/amplitude separating device for separating the modulated

signal generated by the modulated signal generating device into a phase component and an amplitude component, amplitude slicing device for slicing the amplitude component separated by the phase/amplitude separating device at a plurality of voltage levels being different stepwise, a plurality of switching regulators for converting the power supply voltage into a plurality of voltages having different values stepwise, a plurality of linear voltage converting device for voltage-converting the amplitude component by using each of the output voltages of the plurality of switching regulators as the power supply voltage, a switch group for transmitting the amplitude component to the plurality of linear voltage converting device, a switch driver for selectively conducting each switch of the switch group according to the slice data of the amplitude component sliced by the amplitude slicing device, and a high-frequency power amplifier for receiving the phase component at the high-frequency input terminal thereof, for receiving the amplitude component voltage-converted by the plurality of linear voltage converting device at the power supply terminal thereof and for, as a result, outputting a modulated wave in which amplitude and phase are multiplied as substantially described and connected in independent claim 2.

Claims 10 and 12-15 are considered allowable over the prior art of record since prior art of record fails to show or fairly suggest a transmitter having modulated signal generating device for generating a modulated signal, amplitude extracting device for extracting an amplitude component from the modulated signal generated by the modulated signal generating device, amplitude slicing device for slicing the amplitude component extracted by the amplitude extracting device at a plurality of voltage levels being different stepwise, a plurality of switching regulators for converting the power supply voltage into a plurality of voltages having different

values stepwise, a switch group for selecting one of the output voltages of the plurality of switching regulators, a switch driver for selectively conducting each switch of the switch group according to the slice data of the amplitude component sliced by the amplitude slicing device, linear voltage converting device for voltage-converting the amplitude component by using the output voltage of one of the switching regulators selected by the switch group as the power supply voltage, and a high-frequency power amplifier for receiving the modulated signal at the high-frequency input terminal thereof, for receiving the amplitude component voltage-converted by the linear voltage converting device at the power supply terminal thereof and for, as a result, outputting a modulated wave as substantially described and connected in independent claim 10.

Claims 11 and 23-26 are considered allowable over the prior art of record since prior art of record fails to show or fairly suggest transmitter having modulated signal generating device for generating a modulated signal, amplitude extracting device for extracting an amplitude component from the modulated signal generated by the modulated signal generating device, amplitude slicing device for slicing the amplitude component extracted by the amplitude extracting device at a plurality of voltage levels being different stepwise, a plurality of switching regulators for converting the power supply voltage into a plurality of voltages having different values stepwise, a plurality of linear voltage converting device for voltage-converting the amplitude component by using each of the output voltages of the plurality of switching regulators as the power supply voltage, a switch group for transmitting the amplitude signal to the plurality of linear voltage converting device, a switch driver for selectively conducting each switch of the switch group according to the slice data of the amplitude component sliced by the amplitude slicing device, and a high-frequency power amplifier for receiving the modulated

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signal at the high-frequency input terminal thereof, for receiving the amplitude component voltage-converted by the plurality of linear voltage converting device at the power supply terminal thereof and for, as a result, outputting a modulated wave as substantially described and connected in independent claim 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references are related to present claimed invention:

US 20050136854A1 US 20050215209A1 US 20040185803A1

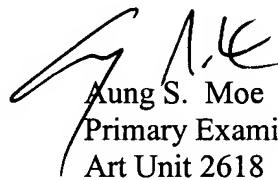
US 20050202789A1 US 20050118965A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung S. Moe whose telephone number is 571-272-7314. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Aung S. Moe
Primary Examiner
Art Unit 2618

A. Moe
June 26, 2006